



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/579,781

01/31/2007

Etsuo Kawate

040894-7448

5779

9629 7590 09/22/2008  
MORGAN LEWIS & BOCKIUS LLP  
1111 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

EXAMINER

LAPAGE, MICHAEL P

ART UNIT

PAPER NUMBER

2886

MAIL DATE

DELIVERY MODE

09/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,781	<b>Applicant(s)</b> KAWATE, ETSUO	
	<b>Examiner</b> MICHAEL LAPAGE	<b>Art Unit</b> 2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8 is/are rejected.
- 7) ☒ Claim(s) 4, 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>18 May 2006, 21 September 2006, 31 January 2007, 15 November 2007, 14 March 2008</u> . | 6) <input type="checkbox"/> Other: _____                          |



### **DETAILED ACTION**

1. Claims 1-8 are presented for examination.

#### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure, which in this case appears to exceed 150 words.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

4. The disclosure is objected to because of the following informalities:

- a. A statement claiming priority to the foreign priority application is required directly after the title of the instant applications specification.

Appropriate correction is required.

#### ***Drawings***

5. Figures 1(a)-(d) should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

Art Unit: 2886

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

6. Claims 4 and 5 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, additionally they cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

7. Claim 5 is objected to because of the following informalities:

b. In line 3, it is believed "or tera-hertz of light" should read --or a tera-hertz frequency range of light--

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2886

**9. Claims 1-3, 6 and 8/6 are rejected under 35 U.S.C. 102(b) as being anticipated by Li et al. (NPL document Time-domain dielectric constant measurement of thin film in GHz-THz frequency range near the Brewster angle).**

As to claims 1 and 6, Li discloses and shows in figure 2, a method for measuring a dielectric constant, comprising:

Irradiating (i.e. Emitter) a sample with light (page 2114, left column, lines 5-8);  
measuring light (i.e. Sensor) that has transmitted through or reflected on the sample (page 2114, left column, lines 8-14); and

determining a complex dielectric constant (i.e. where the FLARE film is being interpreted as a complex layer) of the sample depending upon a spectrum (i.e. where the FIR spectrum range is used in order to determine the dielectric constant) of the transmitted or reflected light (page 2115, left column line 13 to right column line 3). The subject matter of claim 6 relates to a device whose technical features are in each case suitable for implementing the steps of the method claim 1, therefore the device is also obvious in view of the above rejection.

As to claim 2, Li discloses a method, wherein a complex dielectric constant of the sample is determined by setting an incident angle of the incident light upon the sample at 60 degrees or greater and smaller than 90 degrees (page 2114, left column, lines 5-8).

As to claim 3, Li discloses a method, wherein the sample is a substrate having a uniform dielectric constant and uniform thickness or a sample having a thin film

Art Unit: 2886

provided on a part of the substrate (page 2114, right column, lines 1-3; where the spin coated film will inherently form a thin film layer on the Si wafer).

As to claim 8/6, Li discloses an apparatus, wherein incident light upon the sample is changeable in incident angle (page 2114, left column, lines 5-8 and lines 19-22, where the angles as disclosed were changed between 72 and 73).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**11. Claims 7 and 8/7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li.**

12. As to claim 7, Li disclose in (page 2114, left column, lines 14-16) where an apparatus, wherein incident light upon the sample is changeable in the position (where as the sample is rotated the light incident upon it is in a different position),

Li does not explicitly disclose where a photodetector for receiving the transmitted or reflected light is also changeable in the position.

However, Li does disclose in (page 2114, left column, lines 14-16) where the setup is mounted on a rotatable stage. One of ordinary skill in the art at the time the invention was made would recognize that if the setup was moved the detector being part of the setup would additionally be moving.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Li with a moveable detector in order to provide the advantage of a more versatile system that can efficiently detect reflections by compensating for different reflection angles propagating outward from the sample at different angles.

As to claim 8/7, Li discloses an apparatus, wherein incident light upon the sample is changeable in incident angle (page 2114, left column, lines 5-8 and lines 19-22, where the angles as disclosed were changed between 72 and 73 degrees).

#### ***Prior Art made of Record***

1. The prior art made of record and not relied upon is considered pertinent to applicants disclosure.

a. Strange (U.S. Patent No. 5,500,599) discloses a system for measuring a complex dielectric constant.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LAPAGE whose telephone number is (571)270-3833. The examiner can normally be reached on Monday Through Friday 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on 571-272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2886

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael LaPage/  
Examiner, Art Unit 2886

/TARIFUR R CHOWDHURY/

Supervisory Patent Examiner, Art Unit 2886